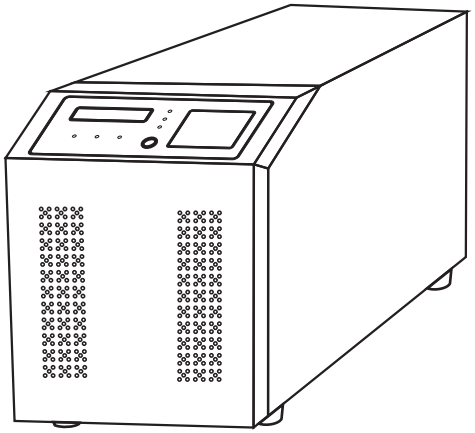
User Manual



SOLAR INVERTER

08/08

技术规格表

型号:LN-S		102024	102048
额定功率(W)		1000	1000
额定直流电压(V)		24	48
市电输入	输入电压	160-265VAC	
	充电电流	15A	
逆变输出	输出电压	220VAC±5%	
	输出频率	50Hz±1%	
	波形	纯正弦波,THD<4%(满载)	
大阳能输入	最大电压（V）	42	84
	额定功率（Wp)	750	1500
	充电电流（A）	30	30
蓄电池	内置蓄电池容量(AH)	—	—
	过充保护电压(V)	29	58
	过充恢复电压(V)	28	56
	恒压充电电压(V)	27.2	54.4
	欠压报警电压(V)	22	44
直流负载	额定电压(V)	—	—
	额定电流(A)	—	—
	电池过放保护电压(V)	—	—
	电池过放恢复电压(V)	—	—
其它	太阳能电池与蓄电池间压降(V)	≤0.3V	
	蓄电池与负载间压降(V)	≤0.15V	
	排风扇启动温度	无	
	环境湿度	0-90%最大，不凝结	
	保护功能	夜间防反充电；蓄电池过充、过放保护；太阳能接反	
	充电控制方式	PWM脉宽调制	
外观尺寸:深*宽*高(mm)		445*200*260	
包装尺寸:深*宽*高(mm)		540*315*360	
净重/毛重(kg)		16.5/18.4	

产品规格变更恕不另行通知

Catalogue

Transportation & storage---------- **CH-1**

Product introduction---------- ---------- **CH-2**

Characteristics---------- ---------- **CH-2**

Installation instruction---------- **CH-3**

Panel display instruction ---------- CH-3

Wire connection instruction of back panel---------- CH-3

Installation consideration---------- CH-4

Installation & operation---------- CH-4

Suggested wire diameter of connecting cables-- **CH-5**

Installation & operation---------- CH-5

Treatment of simple faults---------- **CH-6**

Product specification---------- **CH-7**

Product specification---------- CH-7

Transportation & Storage

Transportation

Please checkif anydamage ofthe package after receiving goods.
If less quantity,Please notify the distributor within7daysafter goods arrived.

Open Package

Be cautious when opening package, Confirm the machine is complete with relating parts and without damage.

Storage

Machine should be stored in the clean, dry（0℃-35℃）environment.

Transportation

Machine must keep stand and transported cautiously, any fall or strong shock may spoil machine.

简易故障的处理

故障现象	可能的原因	解决方法
面板“BATTERY”指示灯不亮	蓄电池连接不正确	检查蓄电池的连接并更正
	充电器故障	请与客户服务代表联系
面板“BATTERY”指示灯红色长亮	电池组端电压低于设备的电池保护阀值电压	建议用户切断用电负载，以保护蓄电池；当蓄电池电压恢复正常时，指示灯熄灭，可以正常带负载
面板“FAULT”指示灯亮，设备长鸣，无输出	设备输出短路	关掉设备，去掉所有负载，确保负载没有故障或内部短路
	设备输出负载超载	检查设备负载并移去非关键性负载
面板“LOAD”指示灯亮，无输出	直流负载输出保险坏	更换相同型号的保险丝
设备启动异常	电池组与机器连接不良好	检查电池组与设备连接，确保接触良好
	内部保险丝熔断显示有内部故障	不要试图修理，请与客户服务代表联系
设备带载放电时间减少	电池充电不足	确保电池正常充电八小时以上
	设备连接负载过重	移走非关键性负载
	由于电池老化，已不能充足电量	请与客户服务代表联系，以获得电池更换组件

当您与客户服务代表联系时，请提供以下资料：

☆记录设备的型号、序列号和购买日期。

☆完整的故障现象描述（如负载类型、面板指示灯、故障的出现频率等相关信息）。

推荐连接电缆线径推算：

$$\text{电缆线径} = \frac{\text{额定充/放电流（A）}}{\text{6A/平方毫米}}\text{(单位：平方毫米)}$$

1）PVC绝缘铜芯线（@70℃）。

2）环境温度不高于40℃。

3）当上面2条不能满足时，应使用更粗的电缆。

运行指示灯显示说明

面板上的指示灯表明逆变器的运行状况，显示如下：

“LINE”绿色指示灯：绿色长亮表示逆变器处于市电模式正常工作；

“INV”黄色指示灯：黄色长亮表示逆变器处于电池模式正常工作；

“FAULT”红色指示灯：红色长亮表示逆变器故障。

“BATTERY”绿/红双色指示灯：绿色长亮表示蓄电池电压正常；

红色长亮表示蓄电池欠压；绿/红色交替闪烁表示蓄电池过充保护;

“SOLAR”绿色指示灯：绿色长亮表示太阳能组件输入正常；

“LOAD”黄色指示灯：黄色长亮表示直流输出电压正常；

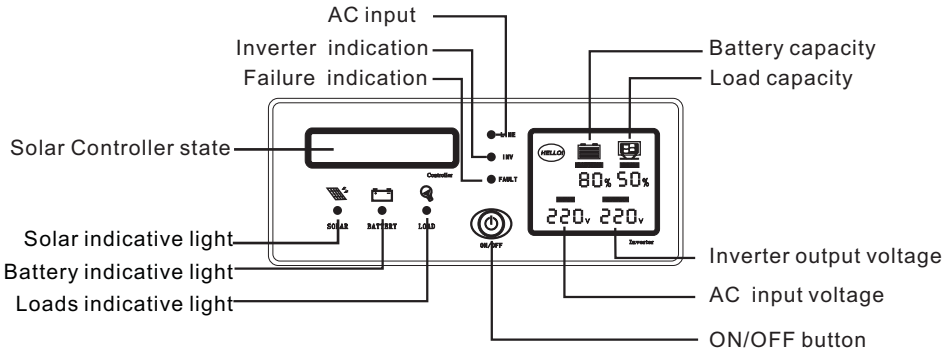
Product Introduction

The product is designed for power suppling of net system.it uses digital design idea,intelligent sine wave output and adapts to all kinds of loads ;The design of excellent output short-circuit protection which can resist impact of large current starting loads.The design of one-touch intelligent swihch.Is easily cinduct.It is widely used in household electric equipment.Communication equipment.And single-phase power equipment,industrial equipment,Ets.

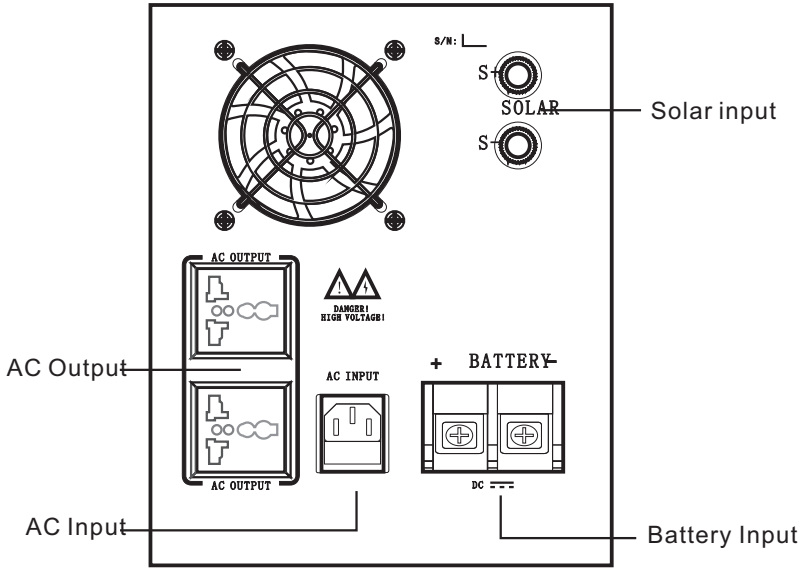
Characteristics

- MCU intelligent control，excellent performance；
- Adopt power frequency transformer, pure sine wave AC out put, strong capacity of different loads；
- Exce lent Design For Short-Circuit Protection, Work Reliably；
- Simple LCD display shows working status clearly；
- Intelligent charge control can extend the life span of the battery；
- Full-Oriented Protection, Safe And Reliable；
- Adapt to wide range of temperature and high altitude；

Panel display instruction



Wire connection instruction of back pane



安装注意事项

⚠ **警告: 安装须由有资格的技术人员参照当地的安全标准执行**

● 本产品适用于相同电压等级和功率的太阳能组件对蓄电池充电，不允许在太阳能组件输入端连接其它类型的充电电源，否则会损坏控制器。

● 逆变器的直流负荷输出端不允许接入电机类负载，且负载电流不超过其额定电流。

● 逆变器的上部和四周应留出2.5厘米的空间,使空气流通。

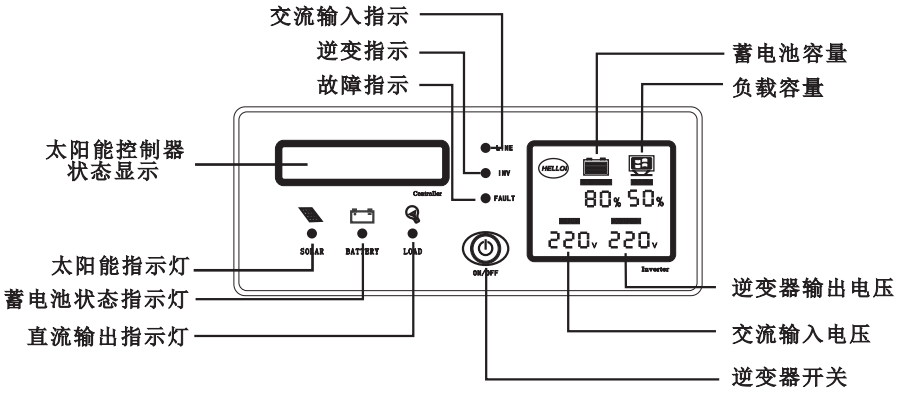
安装与启动

● 太阳能组件连接：按下后板上的“SOLAR SWITH”开关键，面板上“BATTERY”指示灯点亮；确定太阳能组件的电压与功率在充电器的输入范围内，组件的正极接于红色端子“S+”，组件的负极接于黑色端子“S-”，如太阳能组件输入正常则面板上的“SOLAR”指示灯点亮；当逆变器在长时间不使用且没有太阳能组件对其电池充电时需将后板上的“太阳能充电器开关”置高关断充电器以减少电池的放电损耗。

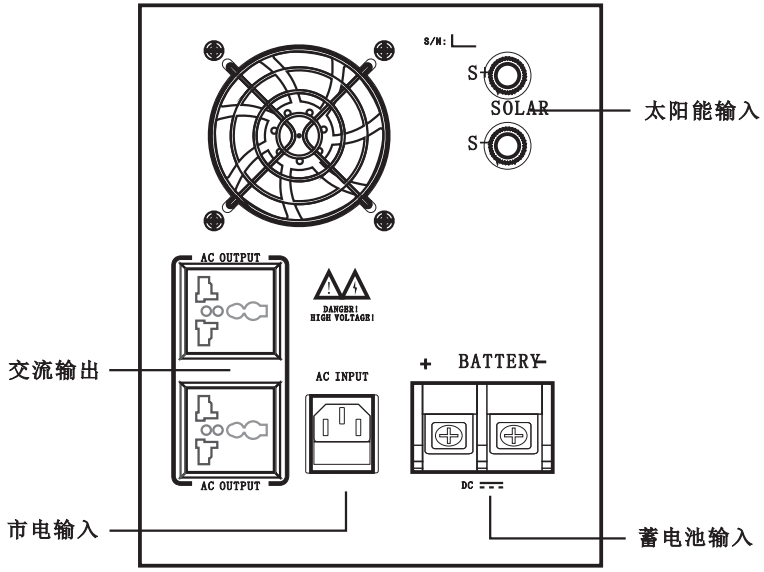
● 交流负载连接：持续按下面板上的“ON/OFF”键三秒，当蜂鸣器“哔”一声后放开，逆变器开机启动，面板上的交流输出电压指针表指示当前逆变器的输出电压。确定交流负载的功率在逆变器的额定功率范围内，将负载插头连接至后板的“OUTPUT”插座上即可；蓄电池电压指示表指示当前蓄电池电压。

●

面板说明



后板说明



Notice

⚠ Warm:installation should be executed by qualified technicians according to the local related safety standard.

- This product is suitable for the solar modules with same voltage grade and power to charge battery. Do notAllow terminal solar input to connect with other types of charge power, or else the controller will be damaged.
- Inverter DC output does not allow access to motor type loads, and load current is less than rated current.
- The top and surrounding of the controller should have 2.5CM space for air circulation.

Installation and start-up

- Solar components connection:press the “SOLAR SWITCH” of rear panel then the “BATTERY” lamp is lighting,;The voltage and power of solar components should inside the range of charger input. The components positive connect the red terminal “S+” ,then the negative connect the black tenninal “S-” .The “SOLAR” lamp is lighting indicates that the solar components input is normal;When the inverter has no use for a long time and solar components have no recharging its battenes,turn down the “SOLAR SWITCH” to reduce the dissipation of batteries.
- AC loads connection:press the “ON/OFF” for three seconds,When hear the sound of buzzer release.inver running boot then the pointer of AC output voltage on the panel direct current output voltage of inverter.To ensure the power of AC loads inside the range of inverter tate power and loads plug connect the “OUTPUT” of panel;The indicating gauge of battery voltage direct its current voltage.

Suggested Wire Diameter Of Connected Cable

Wire Diameter Of Cable（mm）=Single Circuit Rated Current（A）/(6A/mm)

1) PVC insulated copper core wire (@70℃) .
2) Temperature is lower than 40℃.
3) If the above conditions can not be reached, please use strong cables.

Installation & Operation

- “INV” lamp oniverter mode
- “LINE” lamp oninverter works at utility power mode
- “FAULT” lamp onOverload, inverter will shut down automatically when switching to battery for power supply , no output , or inverter failure , output short circuit
- “BATTERY” indicative light is green/rad. Green light is on means voltage of battery is normal.Rad light is on means under voltage,users suggested to cut off electricity supply for loads in order to protect battery.Green/rad light flashes means over charge protection of battery.
- “SOLAR” indicative light is green, the light is on means the solar modules work normally.
- “LOAD” indicative light Is yellow. Yellow light is on means DC output is normal.Yellow light is off means low voltage of battery and cut off output automatically.

产品简介

本产品专为离网系统供电设计，采用数字化的设计理念，智能化正弦波输出，能适应各种类型的负载；优异的输出短路保护设计，可以抗拒大电流启动负载冲击。单键智能开关机设计方便操作,广泛应用于家电设备，通讯设备，单相动力设备、工业设备等。

特性：

- ◆ 单片机（MCU）智能控制，性能卓越；
- ◆ 采用工频变压器，纯正弦波交流输出，适应负载能力强；
- ◆ 优异的输出短路保护设计，运行可靠；
- ◆ LCD显示，设备运行状况一目了然；
- ◆ 智能的充电管理，延长电池使用寿命；
- ◆ 全方位保护，安全可靠；
- ◆ 适应温度范围宽，可高海拔使用；

运输与储存

运输

货物发送时，已彻底检查过，收到后请检查包装是否有损坏，缺少物件必须在收货后7天内通知经销商。

拆包

拆包时应小心操作,并检查机器是否完好，配件是否齐全。 。

储存

设备应储存在清洁、干燥，温度（0℃-35℃）的环境中。

搬运

设备必须保持正立并小心搬运，任何跌落或猛烈撞击都可能损坏设备。

Treatment Of Simple Faults

Faults	Possible reasons	Solution
"BATTERY" indicative light off	Incorrect connection of battery	Check the connection of battery and correct
	Charge fault	Please contact with distributor
"BATTERY" red indicator stkll lighting	The terminal voltage of batteries are lower than the protective voltage	Suggest users cut off the loads to protect the battery. When the voltage recover,indicative light is off and work with loads normally
The indicative light "FAULT" is on, alarm bell,no output	Machine output short-circuit	Switch off machine,remove all loads and confirm if any fault or short-circuit .
	Output overload of equipment	Check loads of the equipment and remove the unnecessary loads
"DC OUTPUT" no output	DC loads output insurance is bad	Replace the same fuse
Equipment start abnormally	Connection between battery and machine is not good	Check the connection and confirm it is good
	Inside fusing of fuse indicates inner fault	Do Not Try To Repair, Must Contact With Customer Service Representative
Shorter discharging time of machine with loads	Insufficient power of battery	Make sure battery charged normally above 8 hours
	Machine with over loads	Remove Unimportant Loads
	Can not charge full because of battery aging	Please contact with customer service representativefor changing battery parts

When you contact with customer service representative,Please provide the following information:

- ☆ Write the model no., Series number and purchasing date.
- ☆ Complete faults description (e.g. types of loads, Indicative lights of panel, Faults frequency and relating information.)

Product Specification

Model:LN-S		102024	102048
Rated power(W)		1000	1000
Rated DC voltage(V)		24	48
Line input	Input voltage	160-265VAC	
	Charge current	15A	
Inverter output	Output voltage	220VAC±5%	
	Output frequency	50Hz±1%	
	Wave form	Pure Sine Wave,THD<4%(Full Load)	
Solar input	Maximum voltage(V)	42	84
	Rated power(Wp)	750	1500
	Charage current(A)	30	30
Battery	Capacity(AH)	—	—
	Over charge protective voltage(V)	29	58
	Over charge recover voltage(V)	28	56
	Constant charge voltage(V)	27.2	54.4
	Over discharge alarm voltage(V)	22	44
DC Loads	Rated voltage(V)	—	—
	Rated current(A)	—	—
	Over discharge protective voltage of battery	—	—
	Over discharge recover voltage of battery	—	—
Others	Voltage drop between solar module and battery(V)	**≤0.3V**	
	Voltage drop between loads and battery(V)	**≤0.15V**	
	Start speed of cooling fan	Have	
	Environment Humidity	**0-90% Maximum , non-condensable**	
	Protective Functions	**Protection against anti-charge at night ; Battery over charge/ over discharge protection; Joint-reversed of solar modules ;**	
	Control method	PWM	
Size :D*W*H(mm)		445*200*260	
Package:D*W*H(mm)		540*315*360	
N.W./G.W.(kg)		16.5/18.4	

Any change of product specification without notice

目录

运输与储存---------- CH-1

产品简介---------- ---------- CH-2

特性---------- ---------- CH-2

安装说明---------- CH-3

面板显示说明 ---------- CH-3

后板接线说明---------- CH-3

安装注意事项---------- CH-4

安装与启动---------- CH-4

推荐连接电缆线径推算---------- CH-5

安装与运行---------- CH-5

简易故障的处理---------- CH-6

技术规格表---------- CH-7

技术规格表---------- CH-7